ABIT COMPUTER CORP.

PP6 Pentium PCI Series Main Board

TEST REPORT

COMMENT:

	Signature	Date	Remarks	Chop
Approved by:				
Checked by:				
Designed by:				

Revision History

Revision	Date	Engineering Change Cause	Designer
Release I	*August 12 '96*	*Original version (PCB Rev 0.2)*	*Martin Lai*
Addendum	*September 5 '96*	*Device Select plug-in Resister*	*Richard Lin*
Release II	*November 13 '96*	*Rev. Changed (PCB Rev.1.0 with SoftMENU)*	*Richard Lin*

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1. Specification

Supported CPU type		
Intel		
✓	Pentium Pro - 150 & 180 & 200	256K Cache
✓	Pentium Pro - 150 & 180 & 200	512K Cache

Processor
- Supports Intel Pentium Pro Series Processor
- With 256KB or 512KB L2 Cache

System Chipset
- Intel 440FX PCIset

Memory
- 72pin SIMM by four
- Supports 8MB to 512MB memory capacity
- Supports FP or EDO DRAM type

On board IDE
- Two Enhanced IDE channels
- Supports up to 4 hard disk drive
- Supports PCI Bus Master to reduce the work load of the CPU

On board FDC
- Supports floppy disk drive by two, Up to 2.88MB

On board Fast I/O
- One EPP/ECP parallel port (IEEE 1284 compliant) and
- Two high speed 16550A compliant UARTs
- Supports Infrared - IrDA (HPSIR) and Amplitude Shift Keyed IR (ASKIR)
- Supports two Universal Serial Bus (USB) interface
- Supports one PS/2 mouse connector

Expansion Slot
- 16-bit ISA slot by three and 32-bit PCI slot by four

BIOS
- Award Plug and Play BIOS (with *SoftMENU*ä)

Size
- 330mm(L) * 220mm(W), four layers

2. BIOS Feature

BIOS Vendor	Date Code	Revision	ID
Award Software Inc.	06/15/96	4.51PG	0K

- Soft MENU
  Adjust CPU Frequncy
- BIOS Features Setup
  Include some function tested.
- Chipset Feature Setup
  Include some function tested.
- Power Management Setup
  Include some function tested.
- PCI & Onboard I/O Setup
  Include some function tested.

✸ Technical supported by BIOS engineer.

2.1 BIOS Features Setup

ROM PCI/ISA BIOS (XXXXXXXX)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal L1 Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
CPU Internal L2 Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
IDE HDD Block Mode	: Enabled		
Typematic Rate Setting	: Enabled		
Typematic Rate (Chars/Sec)	: 30		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select For DRAM > 64MB	: Non-OS2		

ESC	: QUIT	↑↓→←	: Select Item
F1	: Help	PU/PD/+/-	: Modify
F5	: Old Values	(Shift) F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

Tested Item	Option				Status
Virus Warning	Disabled		Enabled		✓
CPU Internal L1 Cache	Enabled		Disabled		✓
CPU Internal L2 Cache	Enabled		Disabled		✓
Quick Power On Self Test	Enabled		Disabled		✓
Boot Sequence	A,C	C,A	C,CDROM,A	CDROM,C,A	✓
Swap Floppy Drive	Disabled		Enabled		✓
Boot Up Floppy Seek	Disabled		Enabled		✓
Boot Up NumLock Status	On		Off		✓
IDE HDD Block Mode	Enabled		Disabled		✓
Typematic Rate Setting	Enabled		Disabled		✓
PCI/VGA Palette Snoop	Disabled		Enabled		✓
OS Select For DRAM > 64MB	Non-OS2		OS2		✓
Video BIOS Shadow	Enabled		Disabled		✓
C8000-CBFFF Shadow	Disabled		Enabled		✓
CC000-CFFFF Shadow	Disabled		Enabled		✓
D0000-D3FFF Shadow	Disabled		Enabled		✓
D4000-D7FFF Shadow	Disabled		Enabled		✓
D8000-DBFFF Shadow	Disabled		Enabled		✓
DC000-DFFFF Shadow	Disabled		Enabled		✓

2.2 Chipset Features Setup

ROM PCI/ISA BIOS (XXXXXXXX)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	8 Bit I/O Recovery Time	: 1
DRAM Speed Selection	: 70 ns	16 Bit I/O Recovery Time	: 1
DRAM RAS# Precharge Time	: 4	Memory Hole At 15M-16M	: Disabled
MA Additional Wait State	: Disabled	DRAM Fast Leadoff	: Disabled
RAS# to CAS# Delay	: Enabled		
DRAM Read Burst (B/E/F)	: x2/3/4		
DRAM Write Burst (B/E/F)	: x3/3/3		
ISA Bus Clock	: PCICLK/4		
DRAM Refresh Queue	: Enable		
DRAM RAS Only Refresh	: Disabled		
DRAM ECC/PARITY Select	: Disabled		
Fast Dram Refresh	: Disabled		
Read-Around-Write	: Enabled		
PCI Burst Write Combine	: Enabled		
PCI-To-DRAM Pipeline	: Enabled	ESC : QUIT	↑↓→← : Select Item
CPU-To-PCI Write Post	: Enabled	F1 : Help	PU/PD/+/- : Modify
CPU-To-PCI IDE Posting	: Enabled	F5 : Old Values	(Shift) F2 : Color
System BIOS Cacheable	: Enabled	F6 : Load BIOS Defaults	
Video RAM Cacheable	: Disabled	F7 : Load Setup Defaults	

Tested Item	Option					Status
DRAM Refresh Queue	Enabled			Disabled		✓
DRAM RAS Only Refresh	Disabled			Enabled		✓
DRAM ECC/PARITY Select	Disabled		Parity		ECC	✓
Fast Dram Refresh	Disabled			Enabled		✓
Read-Around-Write	Enabled			Disabled		✓
PCI Burst Write Combine	Enabled			Disabled		✓
PCI-To-DRAM Pipeline	Enabled			Disabled		✓
CPU-To-PCI Write Post	Enabled			Disabled		✓
CPU-To-PCI IDE Posting	Enabled			Disabled		✓
System BIOS Cacheable	Enabled			Disabled		✓
Video RAM Cacheable	Enabled			Disabled		✓
16 Bit I/O Recovery Time	NA	4	1	2	3	✓
DRAM Fast Leadoff	Disabled			Enabled		✓

2.3 Power Management Setup

ROM PCI/ISA BIOS (XXXXXXXX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management		: User Define	** Power Down & Resume Event **		
PM Control by APM		: Yes	IRQ 3	(COM 2)	: ON
Video Off Method		: V/H SYNC+Blank	IRQ 4	(COM 1)	: ON
Video Off Option		: Susp, Stby → Off	IRQ 5	(LPT 2)	: ON
Modem Use IRQ		: NA	IRQ 6	(Floppy Disk)	: ON
			IRQ 7	(LPT 1)	: ON
Doze Mode		: Disabled	IRQ 8	(RTC Alarm)	: OFF
Standby Mode		: Disabled	IRQ 9	(IRQ 2 Redir)	: ON
Suspend Mode		: Disabled	IRQ 10	(Reserved)	: ON
HDD Power Down		: Disabled	IRQ 11	(Reserved)	: ON
			IRQ 12	(PS/2 Mouse)	: ON
** Wake Up Events In Doze & Standby **			IRQ 13	(Coprocessor)	: ON
IRQ 3	(Wake-Up Event)	: ON	IRQ 14	(Hard Disk)	: ON
IRQ 4	(Wake-Up Event)	: ON	IRQ 15	(Reserved)	: ON
IRQ 8	(Wake-Up Event)	: OFF			
IRQ 12	(Wake-Up Event)	: ON			

ESC	: QUIT	↑↓→←	: Select Item
F1	: Help	PU/PD/+/-	: Modify
F5	: Old Values	(Shift) F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

2.4 PCI & Onboard I/O Setup

ROM PCI/ISA BIOS (XXXXXXXX)
PCI & ONBOARD I/O SETUP
AWARD SOFTWARE, INC.

PCI PnP BIOS Auto-Config	: Disabled	Onboard FDD Controller	: Enabled
PCI IRQ Actived By	: Level	Onboard Serial Port 1	: 3F8/IRQ4
1st Available IRQ	: 9	Onboard Serial Port 2	: 2F8/IRQ3
2nd Available IRQ	: 11	- Onboard IR Function	: Disabled
3rd Available IRQ	: 10		
4th Available IRQ	: 5	Onboard Parallel Port	: 378/IRQ7
		- Parallel Port Mode	: Normal
PCI IDE Card 2nd Channel	: Enabled		
PCI IDE Card IRQ Map To	: PCI-AUTO		
- Primary IDE INT#	: A		
- Secondary IDE INT#	: B		
Onboard USB Controller	: Disabled		
PS/2 Mouse Function (IRQ12)	: Enabled		
Onboard IDE-1 Controller	: Enabled		
- Master Drive PIO Mode	: Auto	ESC : QUIT	↑↓→← : Select Item
- Slave Drive PIO Mode	: Auto	F1 : Help	PU/PD/+/- : Modify
Onboard IDE-2 Controller	: Enabled	F5 : Old Values	(Shift) F2 : Color
- Master Drive PIO Mode	: Auto	F6 : Load BIOS Defaults	
- Slave Drive PIO Mode	: Auto	F7 : Load Setup Defaults	

Tested Item	Option					Status
PCI IDE Card 2nd Channel	Enabled		Disabled			✓
PCI IDE Card IRQ Map to	PCI-AUTO				ISA	✓
Primary IDE INT#	A	B	C	D		✓
Secondary IDE INT#	B	C	D	A		✓
Onboard USB Controller	Disabled		Enabled			✓
PS2 Mouse Function (IRQ12)	Enabled		Disabled			✓
Onboard IDE-1 Controller	Enabled		Disabled			✓
Onboard IDE-2 Controller	Enabled		Disabled			✓
Onboard FDD Controller	Enabled		Disabled			✓
Onboard Serial Port 1	3F8/IRQ4	2F8/IRQ3	3E8/IRQ4	2E8/IRQ3		✓
Onboard Serial Port 2	2F8/IRQ3	3E8/IRQ4	2E8/IRQ3	3F8/IRQ4		✓
-Onboard IR Function	Disabled	IrDA				✓
-IR Duplex Mode		Half	Full			✓
Onboard Parallel Port	378/IRQ7		278/IRQ5			✓
-Parallel Port Mode	Normal	EPP	ECP	ECP+EPP		✓
-ECP Mode Use DMA			3	3		✓
-Parallel Port EPP Type		EPP1.7		EPP1.7		✓

3. Performance Test

Application List:

- Landmark Speed Test v6.0
- System Information of Norton Utilities v8.0
- WinBench 96 v1.0
- WinStone 96 v1.0
- WinStone 32 v1.0 for Windows 95 & Windows NT
- BAPCo 95 SYSMark for Windows NT v3.51
- SPEC CPU95 Version 1.0 (Reserved)

Testing Environment:

- Microsoft DOS v6.22

  Running Landmark Speed Test v6.0 / Norton Utilities v8.0

- Microsoft Windows for Workgroups v3.11

  Running WinBench 96 / WinStone 96

- Microsoft Windows 95 (Built 950)

  Running WinStone 32

- Microsoft Windows NT v3.51 (Built 1057)

  Running BAPCo 95 SYSMark for Windows NT

- SCO UNIX OpenServer 5 (Reserved)

  Running SPEC CPU95 Version 1.0

3.1 DOS Environment

Landmark Speed Test v6.0 / Norton Utilities v8.0

Testing Environment

- Hardware:

BIOS	Award BIOS
Cache	256K Cache
DRAM	16MB FP DRAM
VGA	ATi Mach64CT
Disk Controller	On-board IDE
Hard disk	Quantum Trailazer 840AT IDE HDD

- Software:

O.S.	MS-DOS v6.22	
Config.sys	DEVICE=C:\DOS\HIMEM.SYS	
	DOS=HIGH	
	FILES=40	
	BUFFERS=30	
Autoexec.bat	@ECHO OFF	
	PROMPT pg	
	SET PATH=C:\DOS	
	SET TEMP=C:\DOS	
	C:\DOS\SMARTDRV.EXE /X 4096	Rem DOS 4M

Landmark Speed Test v6.0				
Item	**Unit**	**Pentium Pro - 150**	**Pentium Pro - 180**	**Pentium Pro - 200**
CPU	MHz	1866.74	2240.14	2487.15
FPU	MHz	2808.27	3369.97	3741.58
Video	chr/ms	23976.59	23976.59	23976.59

System Information of Norton Utilities v8.0				
Item	**Unit**	**150MHz**	**180MHz**	**200MHz**
CPU Speed	Index	385.0	462.0	513.3
Hard Disk Speed	Index	16.4	16.4	16.4
Overall Performance	Index	42.8	94.4	129.1

3.2 Windows Environment

WinBench 96 v1.0 / WinStone 96 v1.0

Testing Environment

Hardware:

BIOS	Award BIOS
Cache	256K Cache
DRAM	16MB EDO DRAM
VGA	Random Selected
Disk Controller	On-board IDE
Hard disk	Seagate MEDALIST Series ST32140A IDE HDD

Software:

O.S.	Windows for Workgroups v3.11	
	Windows Resolution is 1024 * 768 Pixels 256 Color	
Config.sys	DEVICE=C:\DOS\HIMEM.SYS	
	BUFFERS=30,0	
	FILES=40	
	DOS=UMB	
	LASTDRIVE=E	
	FCBS=4,0	
	DEVICE=C:\DOS\SETVER.EXE	
	DOS=HIGH	
	DEVICE=C:\WINDOWS\IFSHLP.SYS	Rem Windows for Workgroups driver
	STACKS=9,256	
	DEVICE=C:\BMIDE\TRIDMA.SYS	Rem Bus Master IDE Driver
	DEVICE=C:\BMIDE\TRICD.SYS /D:MSCD000	Rem Bus Master ATAPI CD Driver
Autoexec.bat	@ECHO OFF	
	PROMPT pg	
	SET PATH=C:\WINDOWS;C:\DOS	
	SET TEMP=C:\DOS	
	C:\DOS\MSCDEX.EXE /S /D:MSCD000	
	C:\DOS\SMARTDRV.EXE /X 2048 256	

WinBench 96 (Unit: Million Pixels/Sec)			
VGA Model	**150MHz CPU**	**180MHz CPU**	**200MHz CPU**
S3 Vision864	13.3	14.9	16.2
S3 Vision964	13.6	15.7	17.2
ATi mach64 GX	15.7	17.5	18.9
S3 ViRGE	17.0	19.4	21.3
S3 Vision868	17.8	20.3	22.2
TsengLabs ET6000	17.6	20.4	22.6
S3 Vision968	21.8	25.0	27.4

WinStone 96 (Using S3 Vision868)			
Item	**Pentium Pro - 150**	**Pentium Pro - 180**	**Pentium Pro - 200**
Overall Winstone 96	71.3	78.3	84.6
Business Graphics/DTP	7.2	7.9	8.6
DataBase	8.4	9.2	9.9
Spreadsheet	6.8	7.5	8.1
Word Processing	6.6	7.3	7.9

3.3 Windows 95 Environment

WinStone 32 v1.0

Testing Environment

Hardware:

BIOS	Award BIOS
Cache	256K Cache
DRAM	32MB EDO DRAM
VGA	Random selected
Disk Controller	On-board IDE
Hard disk	Quantum Fireball 1280AT IDE HDD
CD-ROM	

Software:

O.S.	Windows 95 v4.00.950 (Build 1068) Windows Resolution is 1024 * 768 Pixels 256 Color
Config.sys	DEVICE=C:\WIN95\SETVER.EXE DEVICE=C:\WIN95\HIMEM.SYS DOS=HIGH
Autoexec.bat	@ECHO OFF PROMPT pg SET PATH=C:\WIN95;C:\WIN95\COMMAND SET TEMP=C:\DOS

WinStone 32						
Item	**S3ViRGE**	**MGA**	**Trio64V+**	**S3V968**	**Mach64GX**	**Mach64CT**
Overall Winstone 32	98.7	98.8	102.6	94.5	95.8	89.8
Business Graphics/DTP	7.8	7.7	7.7	7.6	7.7	7.4
DataBase	12.3	11.9	12.4	10.9	11.8	11
Word Processing	10.3	10.5	11.1	10	9.9	9.2

1. S3 ViRGE
2. Matrox MGA Ultima/Impression PCI
3. S3 Trio64V+ [764V+ (765) Rev B]
4. S3 Vision968 PCI [Vision 968 Rev B]
5. ATI Graphics Pro Turbo PCI [Mach64GX Rev C]
6. ATI Graphics Pro Turbo PCI [Mach64CT]

3.4 Windows NT Environment

BAPCo 95 SYSMark for Windows NT

Testing Environment

- Hardware:

CPU	Pentium Pro - 200MHz with 256K L2 Cache
BIOS	Award BIOS
Cache	256K Cache
DRAM	32MB EDO DRAM
VGA	Random selected
Disk Controller	On-board IDE and AHA-2940 SCSI Adapter
Hard disk	Quantum Fireball 1280AT IDE HDD
CD-ROM	

- Software:

O.S.	Windows NT v3.51 (Build 1057) Windows Resolution is 1024 * 768 Pixels 256 Color
Config.sys	Reserved
Autoexec.bat	Reserved

BAPCo 95 SYSMark for Windows NT v1.0							
Item	**Unit**	**S3V868**	**S3V968**	**S3Trio64V+**	**S3ViRGE**	**ET6000**	**mach64GX**
SYSMark/NT	Rating	340	372	365	265	382	×
SYSMark Category Rating							
Spreadsheet	Rating	224	253	249	209	265	×
Project Management	Rating	387	434	432	145	438	×
Wordprocessing	Rating	190	235	214	158	233	×
Presentation	Rating	483	496	498	482	520	×
Computer-aided Design	Rating	571	555	574	567	581	×

1. S3 Vision868 PCI [Vision 868 Rev A]
2. S3 Vision968 PCI [Vision 968 Rev B]
3. S3 Trio64V+ [764V+ (765) Rev B]
4. S3 ViRGE
5. TsengLabs ET6000
6. ATI Graphics Pro Turbo PCI [Mach64GX Rev C] → Fail to run in Windows NT

3.5 UNIX Environment

SPEC CPU95

Testing Environment

- Hardware:

BIOS	Award BIOS
Cache	256K Cache
DRAM	32MB EDO DRAM
VGA	Random selected
Disk Controller	On-board IDE
Hard disk	Quantum Fireball 1280AT IDE HDD
CD-ROM	

- Software:

O.S.	SCO OpenServer Release 5
Config.sys	Reserved
Autoexec.bat	Reserved

SPEC CPU95 Performance chart place here! (Reserved)

4. Software Compatibility

4.1 Application Software Test

Package Name	Ver.	Publisher	Status	Notes
System Diagnostics				
Speed Test	6.0	Landmark	✓	
PC Bench	9.0	Ziff-Davis	N/A	Can't work
QAPlus	4.80	DiagSoft	✓	
QAPlus/fe	5.20	DiagSoft	✓	
QAPlus/fe	5.40	DiagSoft		New
Power Meter	1.81	DiagSoft	✓	
Power Meter	2.02	DiagSoft		New
Coretest	3.02	CORE	✓	
Windows 95 SCT	5.10	Microsoft	✓	
Operating System				
MS-DOS	6.22	Microsoft	✓	
Windows	3.1	Microsoft	✓	
Windows for Workgroups	3.11	Microsoft	✓	
Windows 95	4.00.950	Microsoft	✓	
Windows NT Workstation	3.51	Microsoft	✓	
Windows NT Workstation (Beta 2)	4.00	Microsoft	✓	✷*Addendum*
IBM OS/2 Warp	3.0	IBM	✓	
SCO UNIX System V Release 3.2	4.2	SCO	×	
SCO OpenServer Release 5	5.0	SCO	✓	
NOS (Network Operating System)				
Windows NT Server	3.51	Microsoft	✓	
NetWare 386	3.12	Novell	✓	
NetWare	4.1	Novell	✓	
Word Processing				
Word for Windows	6.0a	Microsoft	✓	
Word for Windows 95	7.0	Microsoft	✓	
AMI Pro	R3.01	Lotus	✓	
WordPerfect	6.0a	WordPerfect	✓	

Spreadsheet				
Excel for Windows	5.0	Microsoft	✓	
Excel for Windows 95	7.0	Microsoft	✓	
Lotus 1-2-3 for Windows	R4.01	Lotus	✓	
Quattro Pro for Windows	5.0	Borland	✓	
Database				
Access for Windows	2.0	Microsoft	✓	
Access for Windows 95	7.0	Microsoft	✓	
Paradox for Windows	4.5	Borland	✓	
Graphics/Presentation/Publishing				
Power Point	4.0	Microsoft	✓	
Power Point for Windows 95	7.0	Microsoft	✓	
Freelance	2.0	Lotus	✓	
Corel Draw	4.0c	Corel	✓	
PageMaker	5.0a	Aldus	✓	
Utilities				
Norton Utilities	8.0	Symantec	✓	
Norton Utilities for Windows 95	9.0	Symantec	✓	
FileMaker Pro for Windows	2.12	Claris	✓	
Arcada Backup	4.1	Arcada	✓	
CAD/CAM				
AutoCAD 386	R11C1	AutoDesk	✓	
AutoCAD 386	R13C4	AutoDesk	✓	
Programming languages/Compiler				
Visual BASIC for Windows	3.0	Microsoft	✓	
Borland C++	5.0	Borland	N/A	
Entertainment				

4.2 Driver Compatibility

Triones Bus Master EIDE / ATAPI Driver Version 3.22 Package			
O.S. Environment	**Driver Description**		**Status**
MS-DOS v6.22	TRIDMA.SYS	DOS Bus Master Hard Disk Driver	✓
	TRICD.SYS	DOS Bus Master ATAPI CD-ROM Device Driver	✓
Windows for Workgroups v3.11	TRIINT13.386	Windows INT 13 Translation	✓
	TRICTR.386	Windows Bus Master Fast Disk Driver	✓
Windows 95 v4.00.950	IDEATAPI.MPD	Windows 95 Bus Master Device Driver	✓
Windows NT v3.51	IDEATAPI.SYS	Windows NT Bus Master Device Driver	✓
IBM OS/2 Warp v3.0	TRIOS2.ADD	OS/2 3.0 Bus Master Device Driver	✓
Novell NetWare v3.12	TRIN312.DSK	NOVELL Bus Master Device Driver	N/A
Novell NetWare v4.10	TRIN4X.DSK	NOVELL Bus Master Device Driver	✓
SCO OpenServer Release 5	TRISCO5.TAR	SCO UNIX 3.2/5.0 Bus Master Device Driver	N/A

✸*Addendum*

Bus Master EIDE / ATAPI Driver Version 1.01 (From ABIT manufactory)		
O.S. Environment	**Driver Description**	**Status**
Windows NT	Microsoft Windows NT Bus Master Device Driver	✓
Windows 95	Microsoft Windows 95 Bus Master Device Driver	✓
IBM OS/2 Warp	IBM OS/2 3.0 Bus Master Device Driver	✓

5. Hardware Compatibility

Section 5.1 Add-On Card

- Video Graphics Adapter

  Test by Windows 95, Windows NT or another operating system, use default driver, and vendor's driver, change resolution, test benchmark.
- Disk Controller

  Partition HDD, connect to CD-ROM, booting from operating system, checking resource of Windows 95, and test with Bus Master driver.
- LAN Adapter

  Peer to peer LAN, LAN client, LAN server, in the feature, will test the Internet, or Intranet system.
- Other

  Multimedia test, Sound card, MPEG card and so on.

Section 5.2 Storage Device

- Hard Disk Drive

  Partition, O.S. installation, running diagnostic program.
- CD-ROM

  Bootable CD-ROM, MPEG playing, CD-Audio playing, etc.
- Tape Drive

  Backup from HDD's data or CD-ROM's data.

Section 5.3 I/O Device

- Mouse device, PS/2 type and serial type.

Section 5.4 Memories

- Memory Modules

5.1 Add-on Card

5.1.1 Video Graphics Adapter

PCI Bus Series					
Chipset & Model	**Manufactory**	**RAM**	**O.S.**	**Status**	**Supports**
ATi mach64 (215CT22200) PCI V264CT	ASUS	1MB	Windows 95 SCO OpenServer 5	✓ ✓	
ATi mach64 (210888GX00)	ATi	1MB	Windows 95 Windows NT	✓ ×	
Cirrus Logic GD5440 ST-5434A		1MB	Windows 95 Windows NT	× ×	Noise
Cirrus Logic GD5446 MVGA-CL54XXP	PROLINK	1MB	Windows 95 Windows NT	× ×	Noise
Matrox MGA GraphicsSTAR-64	MATROX	4MB	Windows 95 Windows NT	× ×	Noise
S3 Vision964 (86C964-P) V7-Mercury P64	SPEA	2MB	Windows 95 Windows NT	× ✓	Noise
S3 Vision968 (86C968-P) Stealth 64 Video VRAM PCI	DIAMOND	2MB	Windows 95 Windows NT	✓ ✓	
S3 Trio64 (86C764X)	CARDEX	1MB	Windows 95 Windows NT	✓ ✓	
S3 Trio64V+ (86C765) DSV3865P	Data Expert	1MB	Windows 95 Windows NT	✓ ✓	
S3 ViRGE (86C325) DSV3325	Data Expert	2MB	Windows 95 Windows NT	✓ ✓	With Driver ✱*Addendum*
Trident TGUI9660 MVGA-T9660PCI	PROLINK	1MB	Windows NT 3.51 Windows 95	× ×	Noise
Trident TGUI9680 MVGA-T9680P	PROLINK	1MB	Windows NT 3.51 Windows 95	× ×	Noise
Tseng Labs ET6000	CARDEX	2MB	Windows 95 Windows NT	✓ ✓	With Driver ✱*Addendum*
Weitek Power 9100 Viper Pro PCI	DIAMOND	2MB	Windows 95 Windows NT	✓ ✓	

5.1.2 Disk Controller

Model	Peripheral	O.S. Environment	Status	Interface
Adaptec AHA-1542CP	NEC CDR-84J	MS-DOS 6.22 Windows 3.1	✓	ISA
Adaptec AHA-2940	Quantum 540S NEC CDR-84J	MS-DOS 6.22 SCO OpenServer 5	✓	PCI
Adaptec AHA-3940	NEC CDR-84J	MS-DOS 6.22 Windows 95	✓	PCI
BusLogic BT-946C	NEC CDR-84J	Windows 95 Windows NT 3.51	✓	PCI
BusLogic KT-950	NEC CDR-84J	Windows 95 Windows NT 3.51	✓	PCI

5.1.3 LAN Adapter

Model	N.O.S.	Status
3Com EtherLink III (3C509) Rev. B ISA-bus	Novell NetWare 4.10	✓
3Com EtherLink III (3C590) Rev. D PCI-bus	Novell NetWare 4.10	✓
D-Link DE-530CT Rev. A1 PCI-bus	Novell NetWare 4.10	✓
SMC EtherCard Elite16C Ultra (8216C) Rev. A ISA-bus	Novell NetWare 4.10	✓

5.1.4 Others

Model	O.S. Environment	Status	Notes
Creative Sound Blaster 16 PnP (CT-2950)	Windows 95	✓	Joystick O.K.
Creative Sound Blaster 16 (CT-3790)	Windows NT3.51	✓	Joystick O.K.
Creative Sound Blaster AWE32 (CT-2760)	Windows 95	✓	Joystick O.K.

5.2 Storage Device

5.2.1 Hard Disk Drive

Peripheral Device	Controller	O.S. Environment	Status	Remark/Special Setting
IDE Hard Disks				
Conner CFS850A	Onboard IDE	MS-DOS 6.22	✓	
Maxtor 7540AV	Onboard IDE	MS-DOS 6.22	✓	
Maxtor 7546A	Onboard IDE	MS-DOS 6.22	✓	
Maxtor 71260A	Onboard IDE	MS-DOS 6.22	✓	
Quantum 540AT	Onboard IDE	Windows 3.1	✓	
Quantum FB 1080A	Onboard IDE	Windows 95	✓	With BusMaster Driver
Quantum FB 1280A	Onboard IDE	IBM OS/2 Warp 3.0	✓	With BusMaster Driver
Quantum BF 1280AT	Onboard IDE	IBM OS/2 Warp 3.0	✓	With BusMaster Driver
Samsung SHD-30560A	Onboard IDE	Windows 3.1	✓	
Seagate ST31220A	Onboard IDE	Windows 95	✓	
Seagate ST51080A	Onboard IDE	Windows 3.1	✓	
Seagate ST51270A	Onboard IDE	Windows 3.1	✓	
W.D. Caviar 21220	Onboard IDE	MS-DOS 6.22	✓	
SCSI Hard Disks				
Quantum 540S	AHA-2940	SCO OpenServer 5	✓	
Maxtor 7345SR	AHA-2940	UNIXWare 2.01	✓	

5.2.2 CD-ROM

Peripheral Device	Controller	O.S. Environment	Status	Remark/Special Setting	
IDE & AT-Bus CD-ROM					
Creative CD-420E	Onboard IDE	MS-DOS 6.22	✓	4X speed	
Creative CD-820E	Onboard IDE	Windows 95	✓	8X speed	Bootable ✸*Addendum*
GoldStar GCD-R580B	Onboard IDE	Windows 95	✓	8X speed	Boot Failure ✸*Addendum*
NEC CDR-1300A	Onboard IDE	MS-DOS 6.22	✓	6X speed	
NEC CDR-1400C	Onboard IDE	Windows 95	✓	8X speed	Boot Failure ✸*Addendum*
Panasonic CR-581B	Onboard IDE	MS-DOS 6.22	✓	4X speed	
SONY CDU-55E	Onboard IDE	MS-DOS 6.22	✓	2X speed	
TEAC CD-58E	Onboard IDE	Windows 95	✓	8X speed	Bootable ✸*Addendum*
Toshiba XM-5522B	Onboard IDE	MS-DOS 6.22	✓	6X speed	
SCSI CD-ROM					
NEC CDR-84J	AHA-1542CP	Windows NT 3.51	✓	SCSI-1 2X speed	
		SCO OpenServer 5	✓		

5.2.3 Tape Drive

Peripheral Device	Controller	O.S. Environment	Status	Remark/Special Setting
QIC Format/Type				
HP Colorado T1000	Onboard FDD	Windows 95	✓	Arcada Backup for Windows 95

5.3 Device

Peripheral	Vendor	Spec.	Result	Connect
Mouse				
M-M35-9F	Logitech	Serial type	✓	To COM1 & COM2
MouseMan 96	Logitech	PS/2 type	✓	To PS/2 connector
Printer				
LaserJet 5P	HP	Laser printer	✓	To LPT1
DeskJet 400	HP	Ink jet printer	✓	To LPT1
Monitor				
Vision Master Pro17	READ Sync	17” Multisync	✓	To VGA

5.4 Memories

5.4.1 Memory Modules

Modules	Brand	Component	Status	Notes
4M Bytes	Panasonic	MN41C4400ASJ-07	✓	FP / DS
	Hitachi	HM514400ALS7	✓	FP / DS
	NEC	424400-60	✓	FP / DS
	Micron	MT4C4007JDJ-7	✓	EDO
	Samsung	KM44C1004CJ-6	✓	EDO
8M Bytes	Hyundai	HY514400A J-70F	✓	FP / DS
	Panasonic	MN41C4400BSJ-07	✓	FP / DS
	Panasonic	MN414400CSJ-06	✓	FP / DS
	Panasonic	EUXSR08TV07E	✓	EDO
	Hitachi	HM5118160AJ7	✓	FP / DS
	Hitachi	HM514400BLS7	✓	FP / DS
	NEC	424400-70	✓	FP / DS
	NEC	4218160-6	✓	FP / DS
	NEC	4218165-60	✓	EDO
	Toshiba	TC514400ASJC-70	✓	FP / DS
16M Bytes	Siemems	HYB516400AJ-60	✓	FP
32M Bytes	Samsung	KM44C4100J-6	✓	FP / DS
	TI	TMS417400DI-60	✓	FP / DS

6. Operating System Installation

Listed Operating System as follow for installation:

- Microsoft DOS v6.22
- Microsoft Windows v3.1
- Microsoft Windows for Workgroup v3.11
- Microsoft Windows 95
- Microsoft Windows NT Workstation v3.51 (Built 1057)
- IBM OS/2 Warp v3.0
- Novell UNIXWare v2.01
- SCO OpenServer 5

① *Microsoft DOS v6.22*			
CPU	Intel Pentium Pro-200	HDD	Quantum BigFoot
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	Diamond Stealth 64 Video		
Other Device	Sound Blaster 16 PnP, SMC EtherCard Elite16C Ultra		
Result	**PASS**		
Notes			

② *Microsoft Windows v3.1*			
CPU	Intel Pentium Pro-200	HDD	Quantum BigFoot
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	Diamond Stealth 64 Video		
Other Device	Sound Blaster 16 PnP, SMC EtherCard Elite16C Ultra		
Result	**PASS**		
Notes			

③ *Microsoft Windows for Workgroup v3.11*			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	S3 Trio64V+		
Other Device	3Com EtherLink III		
Result	**PASS**		
Notes			

④ *Microsoft Windows 95*			
CPU	Intel Pentium Pro-200	HDD	Quantum BigFoot
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	Diamond Stealth 64 Video		
Other Device	Sound Blaster 16 PnP, SMC EtherCard Elite16C Ultra		
Result	**PASS**		
Notes			

⑤ *Microsoft Windows NT Workstation v3.51 (Build 1057)*			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	S3 ViRGE		
Other Device	SMC EtherCard Elite16C Ultra		
Result	**PASS**		
Notes			

⑥ *IBM OS/2 Warp v3.0*			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	S3 Trio64		
Other Device	None		
Result	**PASS**		
Notes			

⑦ *Novell UNIXWare v2.01*			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	ATi Graphics Pro Turbo PCI (Mach64CT)		
Other Device	3Com EtherLink III		
Result	**PASS**		
Notes			

⑧ *SCO OpenServer 5*			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	ATi Graphics Pro Turbo PCI (Mach64CT)		
Other Device	3Com EtherLink III		
Result	**PASS**		
Notes			

7. Burn-in Test

- IBM OS/2 Warp v3.0 with Test program
- Novell NetWare v4.10 Server
- Microsoft Windows NT Server v3.51 (Traditional Chinese)

IBM OS/2 Warp v3.0 with Test program			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	Diamond Stealth 64 Video	Network	None
Procedure: Running multiple task.			
Result	**PASS**	Test Period	**12 hours**

Novell NetWare v4.10 Server			
CPU	Intel Pentium Pro-200	HDD	Quantum Fireball
Cache RAM	256KB	FDD	1.44MB * 1
DRAM	16MB FP	Disk Controller	On-board IDE
VGA	S3 Trio64	Network	Novell NetWare
Procedure: Client is running NWTEST.EXE.			
Result	**PASS**	Test Period	**24 hours**

Microsoft Windows NT Server v3.51 (Traditional Chinese)			
CPU	Intel Pentium Pro-200	HDD	Quantum BigFoot
Cache RAM	512KB	FDD	1.44MB * 1
DRAM	16MB EDO	Disk Controller	On-board IDE
VGA	S3 Trio64V+	Network	Microsoft Network
Procedure: Client is Windows 95, running AP from NT Server.			
Result	**PASS**	Test Period	**12 hours**

8. Appendix A: Fault Description

More then VGA is failed to running.